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Special Report on New Personnel

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DAYTON, Ohio, September 25, 1972 --- This is a special report on some new personnel in the University of Dayton's Research Institute. I thought it might interest you. Thanks for any consideration you give this news release.

During the Summer, UDRI employed, for the first time, two medical doctors who are assisting with current research projects.

Dr. John C. Guignard, research physiologist, who is a graduate of the University of Edinburgh Medical School, holds the British equivalent of an MD degree. He is working in the Aerospace Medical Engineering Section of the Research Institute, as a specialist in the effects of sound and vibration upon man. Dr. Guignard is a member of an International Standards Organization committee on mechanical vibration and shock acceptable to man, a member of a British Standards Institution subcommittee on the same subject, and a member of an informal UK working party on the safety and medical aspects of human experimentation on vibration machines. He is also a member of several learned societies and associations, in both the United Kingdom and the United States.

Dr. Guignard will be involved in studies aimed at the development of criteria and limits of noise exposure for protection of hearing. He also expects to do on-campus research on human response to whole-body vibration, including subjective and physiological responses to the type of vibration experienced in transportation and industry.

Dr. Chandler A. Phillips received the MD degree from the University of Southern California, and is also a registered engineer in the State of California. His publications cover a wide range of subjects such as an electronic artificial larynx, a cardiovascular differential analyzer, differential diagnosis of personality disorders, and drug abuse in Thailand. He comes to UD from the Air Force, where he served as a research laboratory medical officer and a general medical officer in psychiatry. He has also been a medical research associate in cardiology and has industrial experience as a consulting electronics engineer.

Dr. Phillips will be working with Prof. John E. Minardi in a basic research project to determine how muscle converts chemical energy into mechanical work. This is part of a major program in thermodynamics that will include analysis of different methods of energy conversion and the study of numerous biological processes in which the science of thermodynamics is an important analytical tool.

Dr. Phillips will head-up the biological phase of the program. The object of his initial efforts will be to study the energy conversion process in the intact heart muscle in order to develop a mathematical model of the heart's muscular activity. It is hoped that the studies will ultimately lead to a means for analyzing patients who have had heart diseases in order to determine whether or not the patients can resume normal activity, and will provide knowledge of the heart's energy conversion process in order to determine the cause of various heart diseases. Dr. Phillips is also interested in studying the mechanism of nitrogen bubble formation which causes decompression sickness, better known as "the bends."

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